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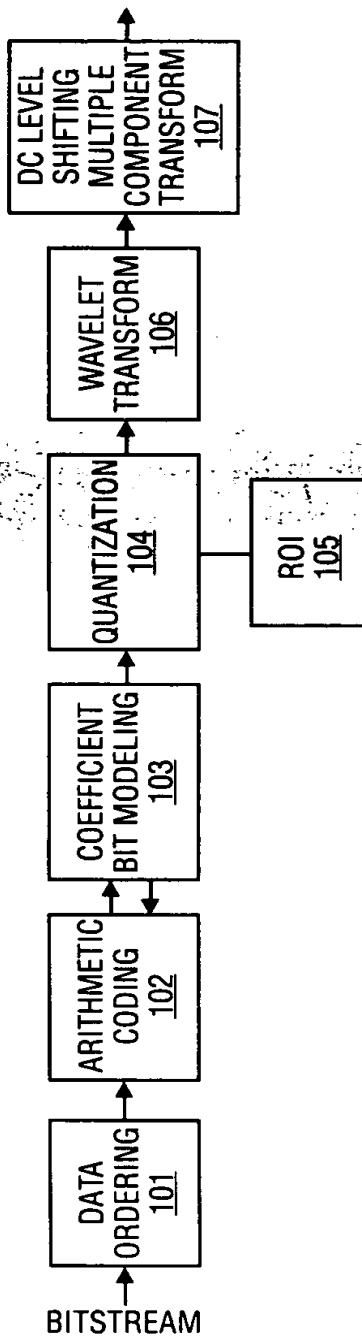


FIG. 1

BEST AVAILABLE COPY



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SP 0	SP 4	C 8	C 12	C 16	C 20	C 24	C 28
R 1	SP 5	C 9	C 13	C 17	C 21	C 25	C 29
R 2	SP 6	SP 10	SP 14	SP 18	C 22	C 26	C 30
SP 3	SP 7	R 11	R 15	SP 19	C 23	C 27	C 31
C 32	SP 36	SP 40	SP 44	SP 48	C 52	C 56	C 60
C 33	C 37	C 41	C 45	C 49	C 53	C 57	C 61
C 34	C 38	C 42	C 46	C 50	C 54	C 58	C 62
C 25	C 39	C 43	C 47	C 51	C 55	C 59	C 63

FIG. 2A



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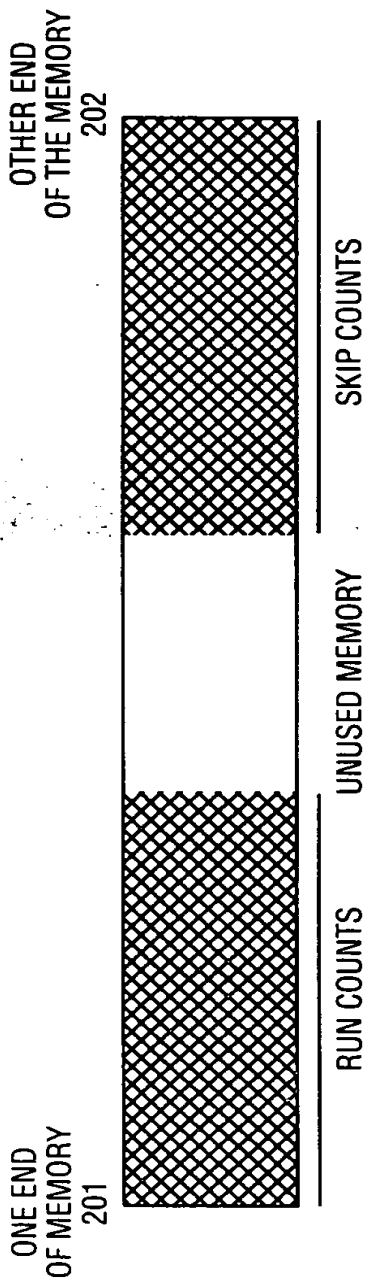


FIG. 2B

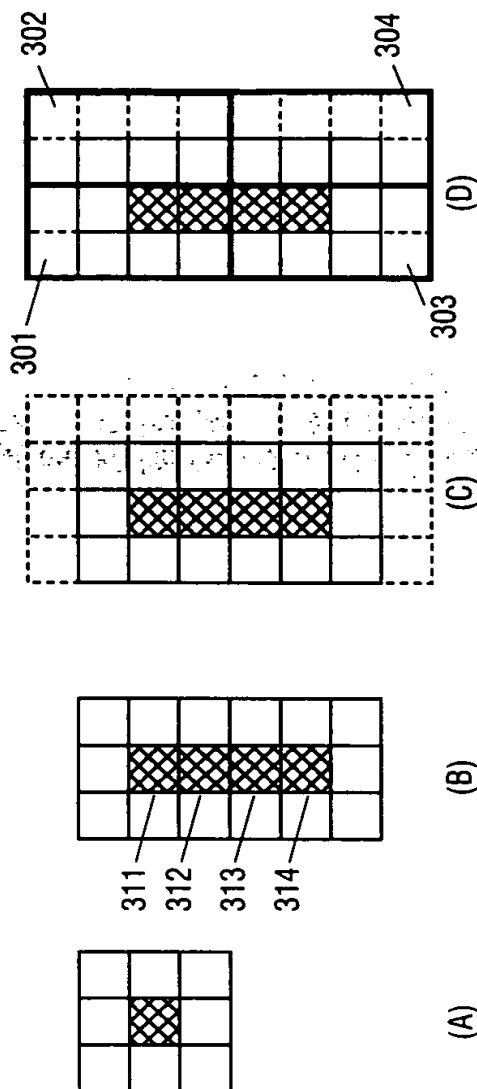


FIG. 3



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	0	1	2	3	4	5	6	7
0	A		B		A		B	
1	C		D		C		D	
2	A		B		A		B	
3	C		D		C		D	
0	A		B		A		B	

FIG. 4



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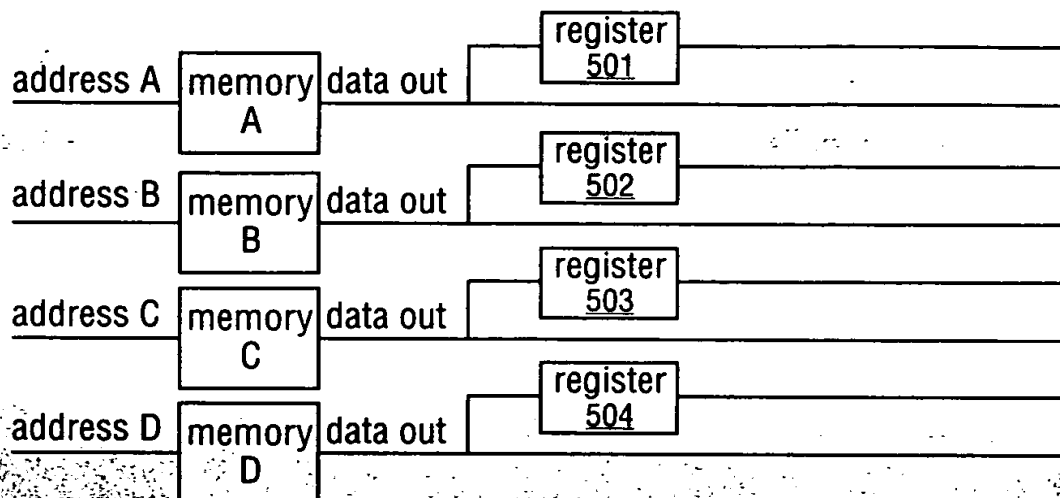


FIG. 5

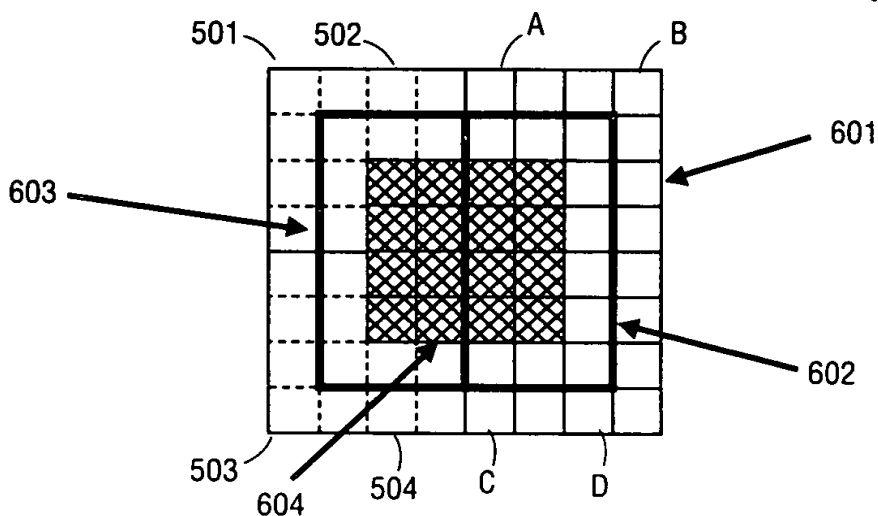


FIG. 6



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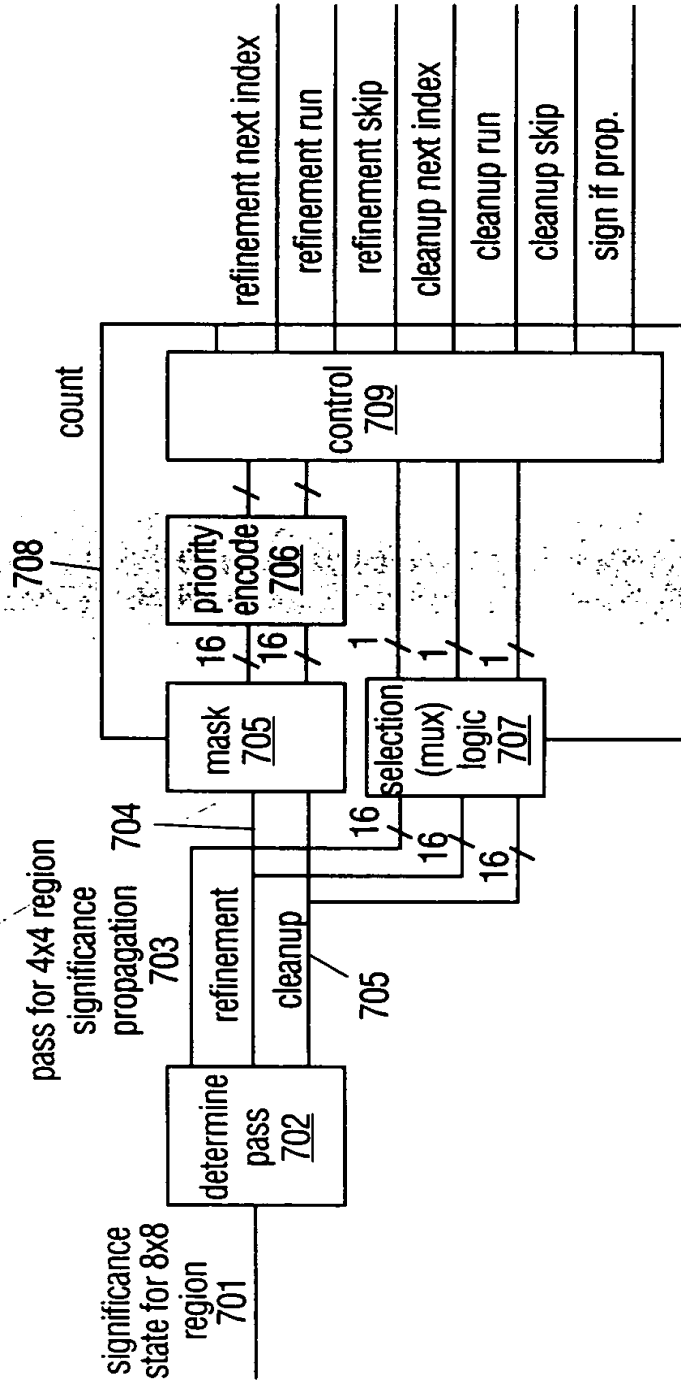


FIG. 7

SP	SP	SP	SP
C	C	C	C
SP	SP	SP	SP
SP	R	R	SP

SP = significance propagation
C = cleanup
R = refinement

SP pass: 10×2 for SP pass coefficients
6 for C and R pass coefficients
C pass: 4×2 for C pass coefficients
R pass: 2 for R pass

total: 36 clocks = 2.25 clocks per coefficient

FIG. 8



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	0	1	2	3
0	A	A	A	A
1	B	B	B	B
2	A	A	A	A
3	B	B	B	B
0	A	A	A	A

FIG. 9

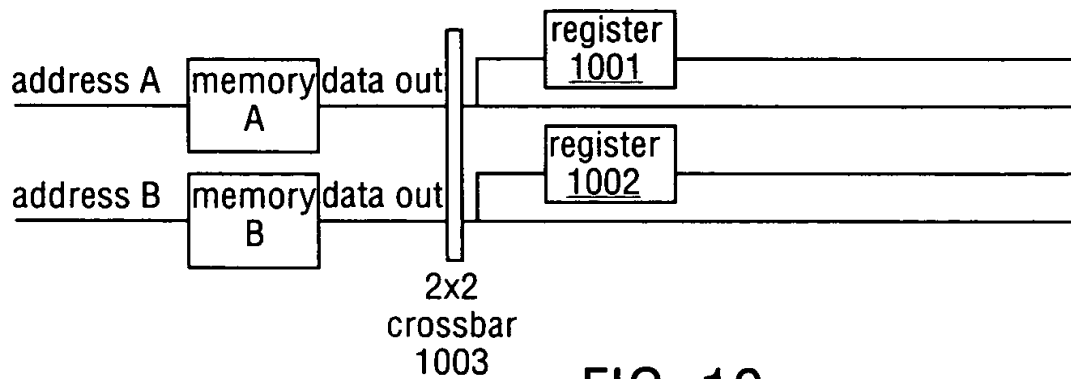
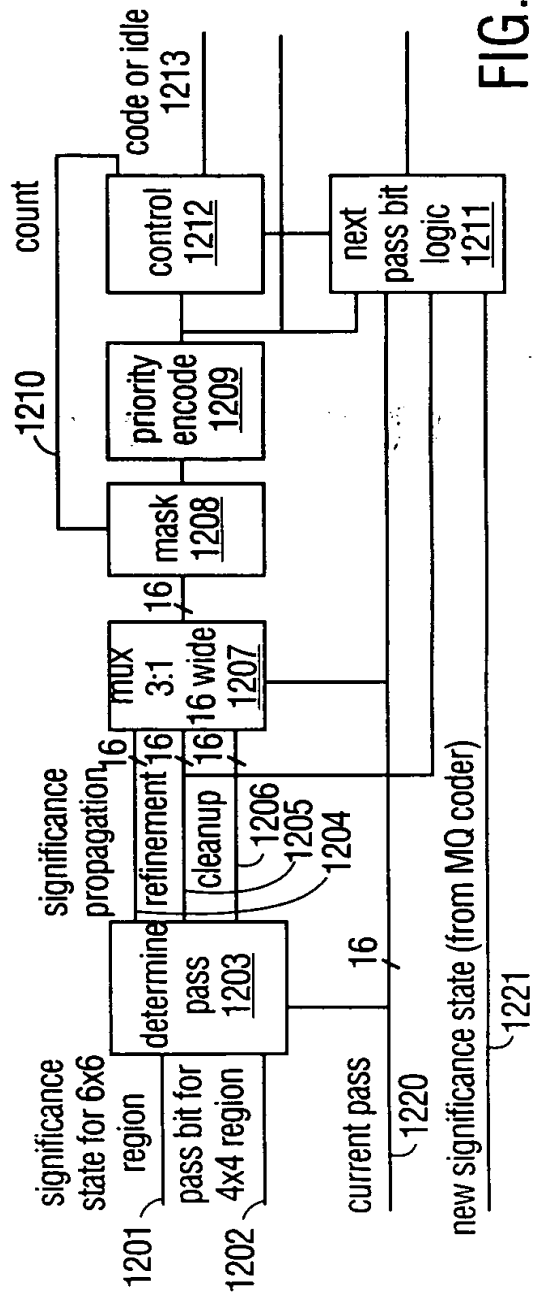
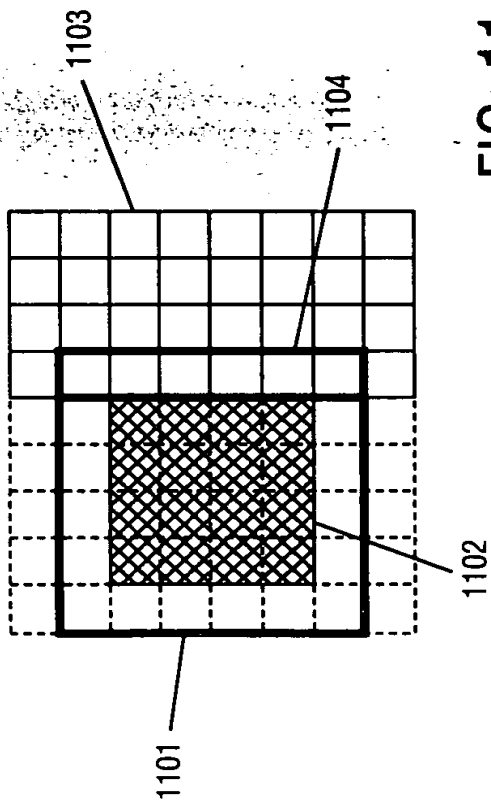


FIG. 10



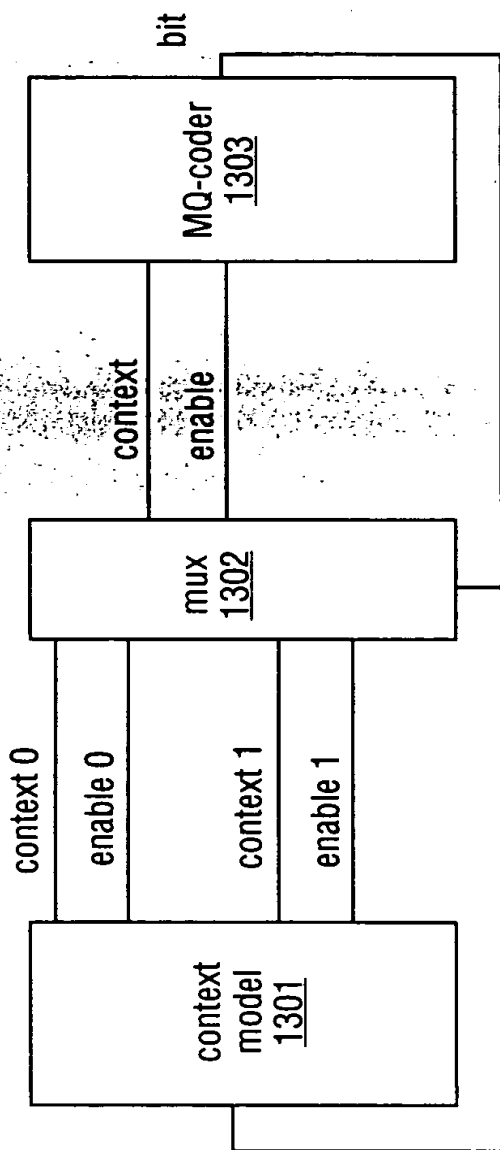


FIG. 13

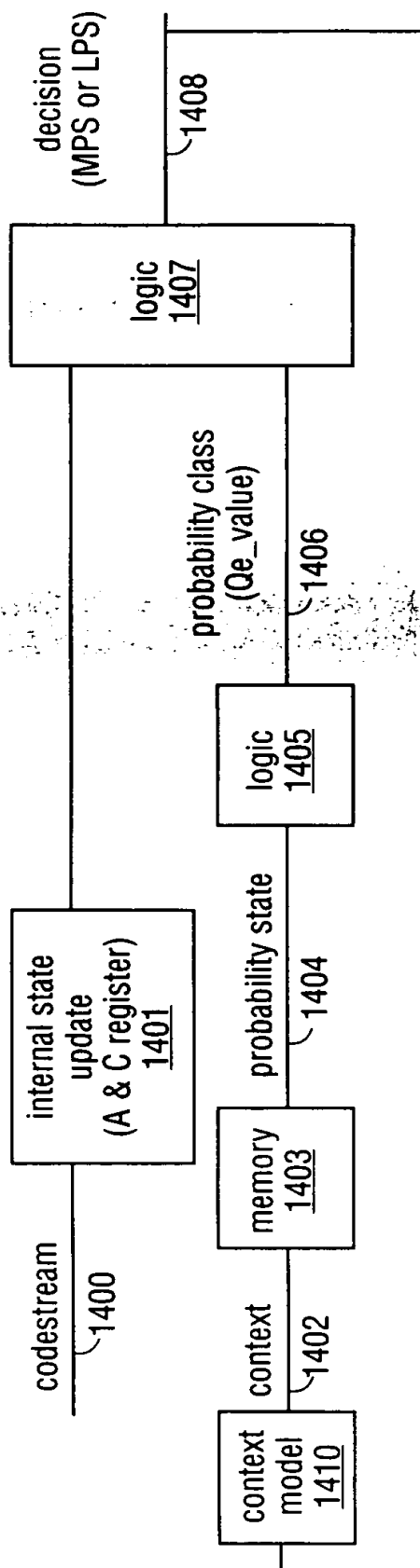


FIG. 14A



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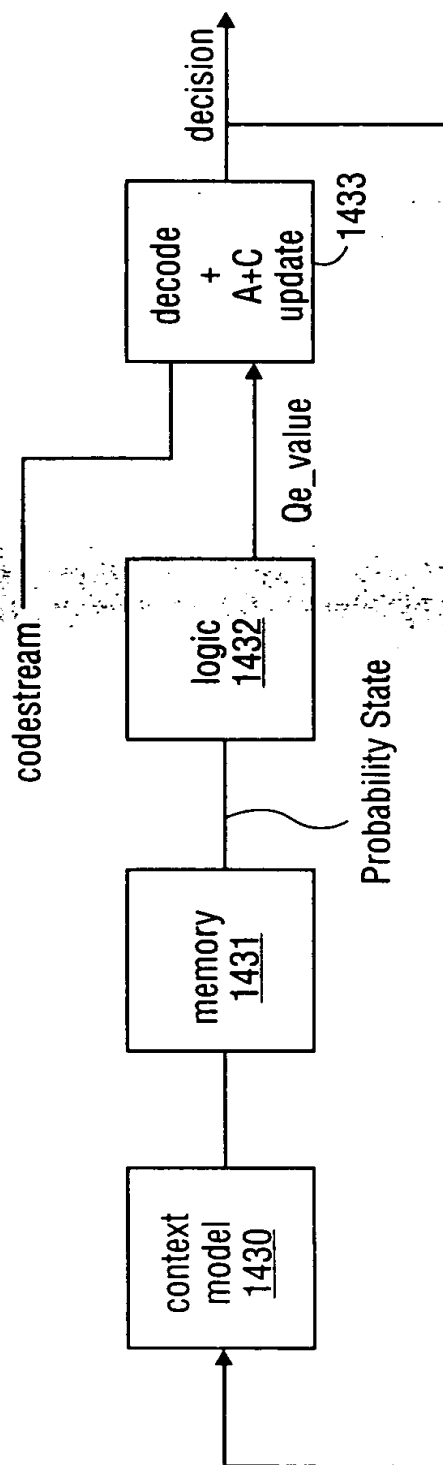


FIG. 14B

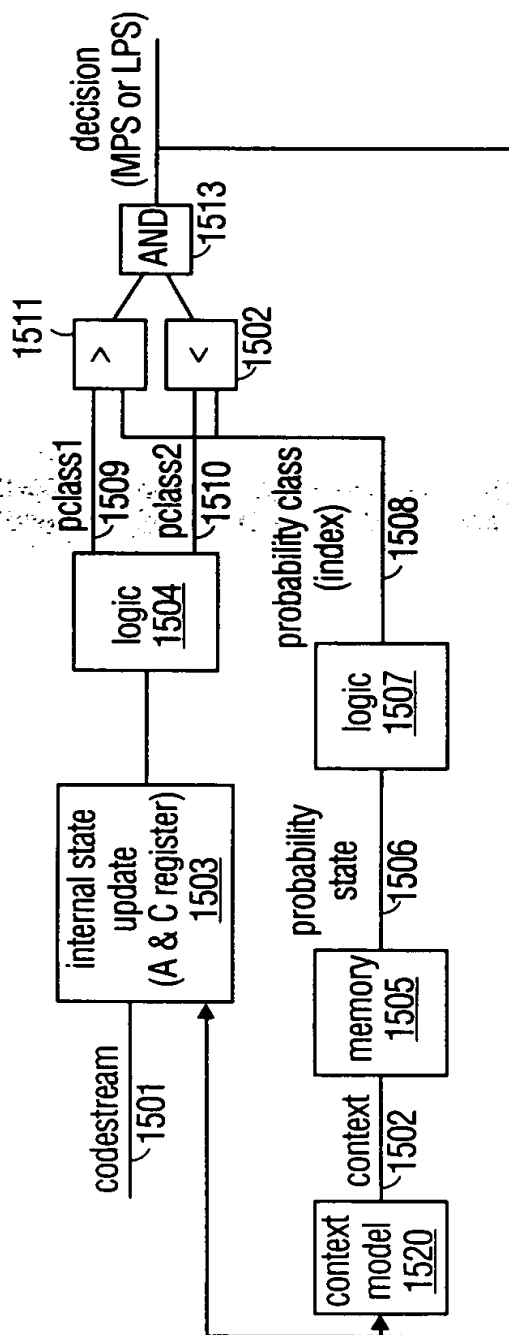


FIG. 15

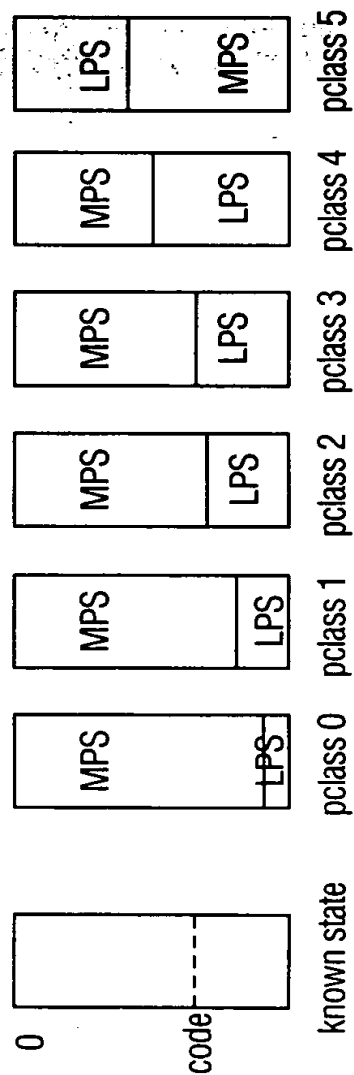


FIG. 16A

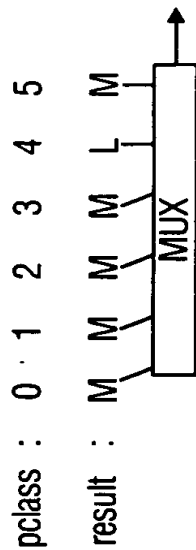


FIG. 16B



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5MPS
4 MPS
3 MPS
2 MPS
1 MPS
LPS

FIG. 17



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luminance

A	A	A	D
A	A		
A		A	
A		A	

chrominance

B	B	B	D
B	B		
B		B	
B		B	

chrominance

C	C	C	D
C	C		
C		C	
C		C	

(A)

A	A	A	B
A	A		
A		A	
B		A	

C	C	C	D
C	C		
C		C	
D			C

E	E	E	F
E	E		
E		E	
F		E	

(B)

F	F	B	C
F	F		
A		A	
A			B

G	G	C	F
G	G		
B		C	
D			H

E	E	E	E
E	E		
D	D		
G		H	

(C)

FIG. 18



CO. OF PAPERS
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luminance

A	A	A	B
A	A		
A		A	
B		A	

chrominance

C	C	C	
C	C		
C		C	
C			

chrominance

D	D	D	
D	D		
D		D	
D			

(A)

F	F	F	C
A	A		
F		F	
A		B	

B	B	C	
C	C		
A	B		
D			

D	D	F	
E	E		
D	E		
E			

(B)

A	A	A	C
A	A		
A		A	
B		D	

E	E	E	
E	E		
E		E	
F			

G	G	G	
G	G		
G		G	
H			

(C)

FIG. 19



COPIES OF PAPERS
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luminance

chrominance

chrominance

A	A	D	C
A	A		
D		A	
A			B

B	B	D	
B	B		
D		B	

C	C	D	
C	C		
D		C	

(A)

A	A	A	C
A	A		
A		A	D
B			

E	E	E	
E	E		
E		E	

F	F	F	
F	F		
F		F	

(B)

A	A	H	E
A	A		
B		A	
C			D

F	F	H	
F	F		
B		F	

G	G	H	
G	G		
B		G	

(C)

FIG. 20



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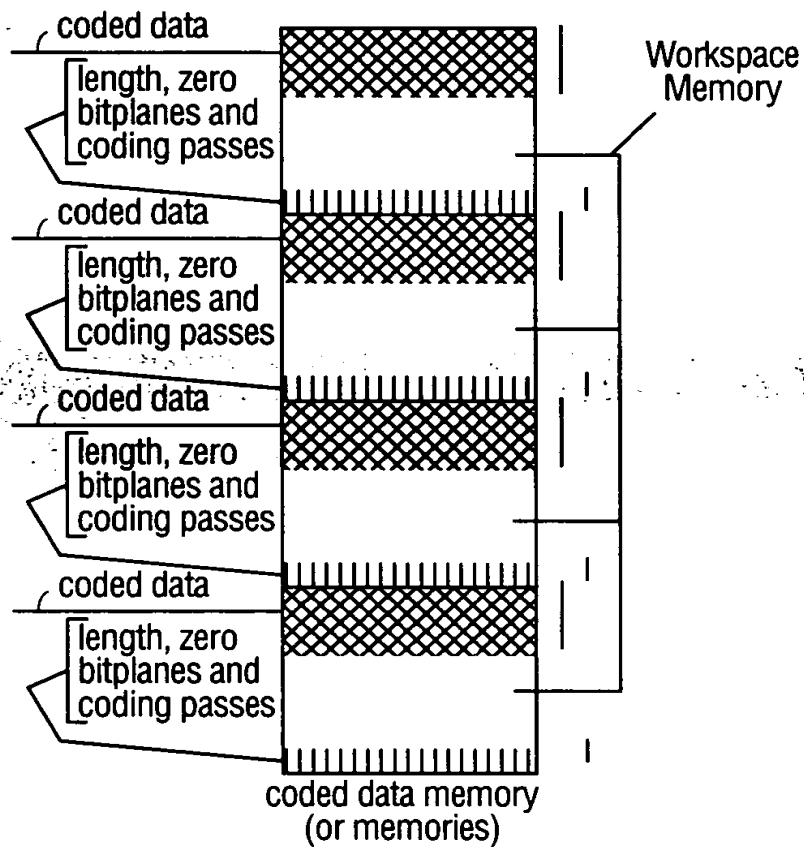
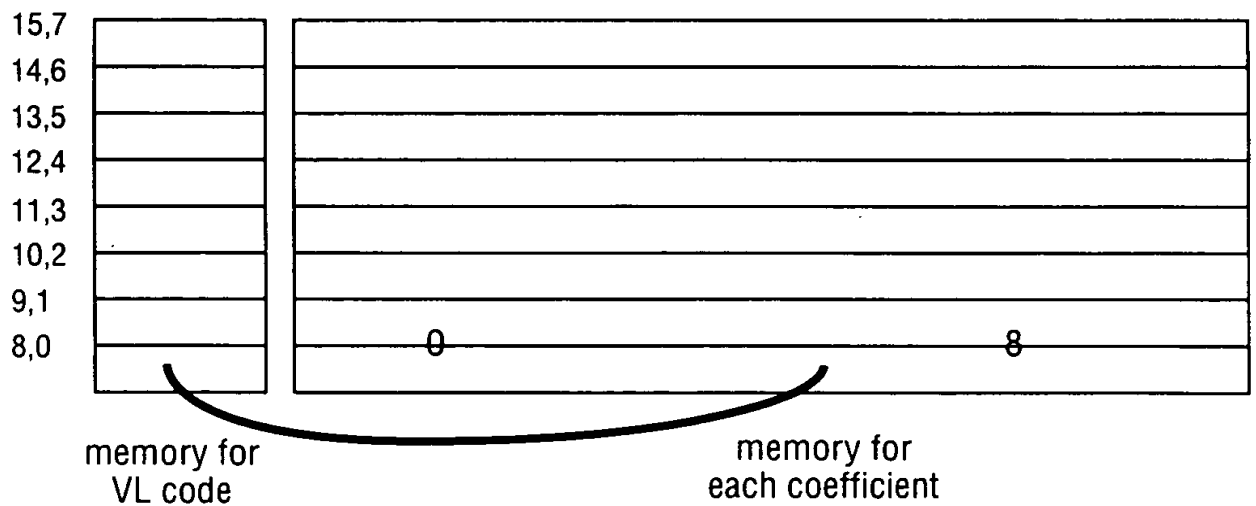
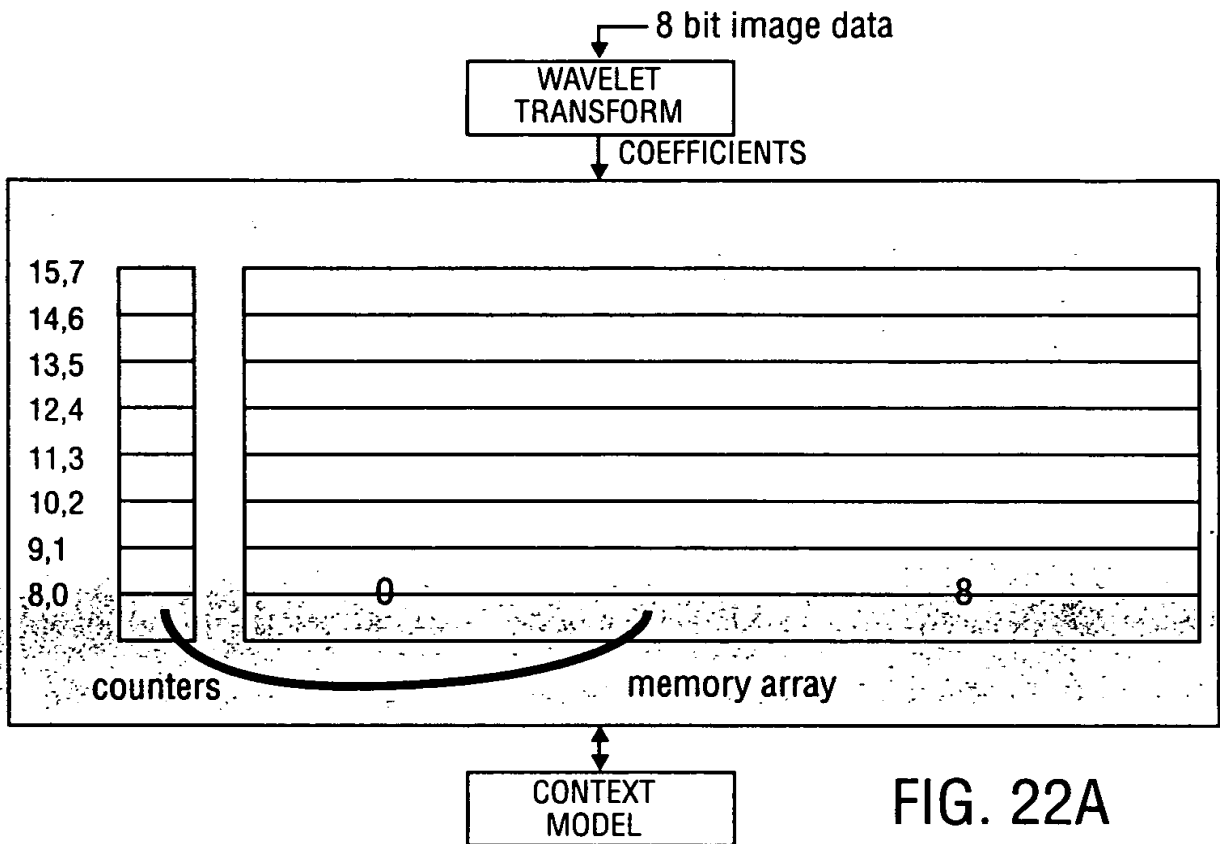


FIG. 21



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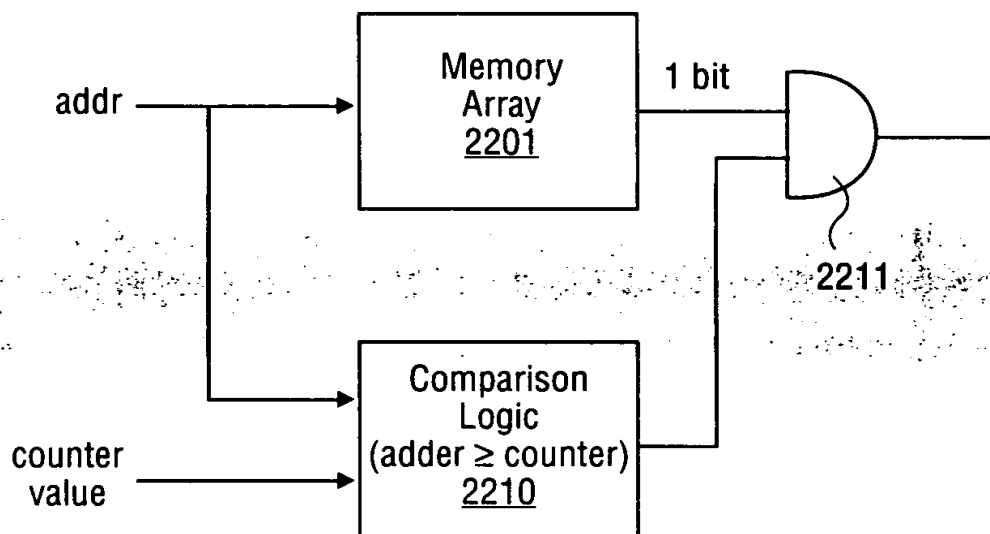
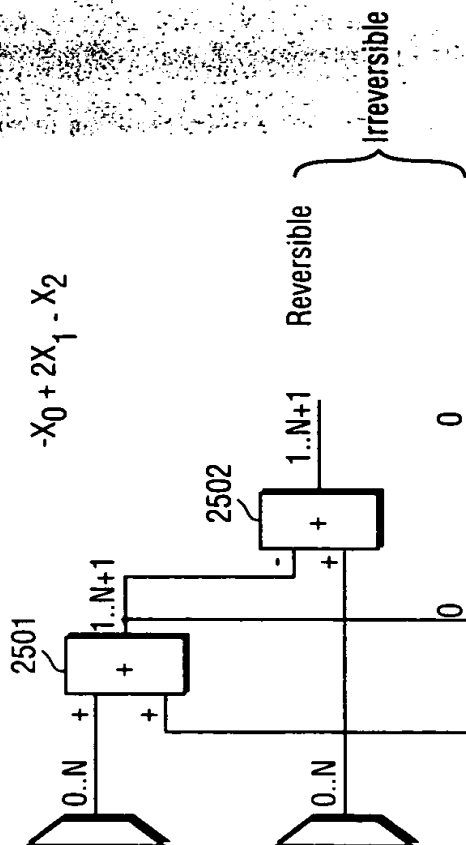


FIG. 22B

FIG. 25A



$$\begin{aligned}
 &X_0 + 4X_1 + X_2 \\
 &X_1 - \left[\frac{X_0 + X_2 + 2}{4} \right] \\
 &4X_1 - X_0 + X_2
 \end{aligned}$$

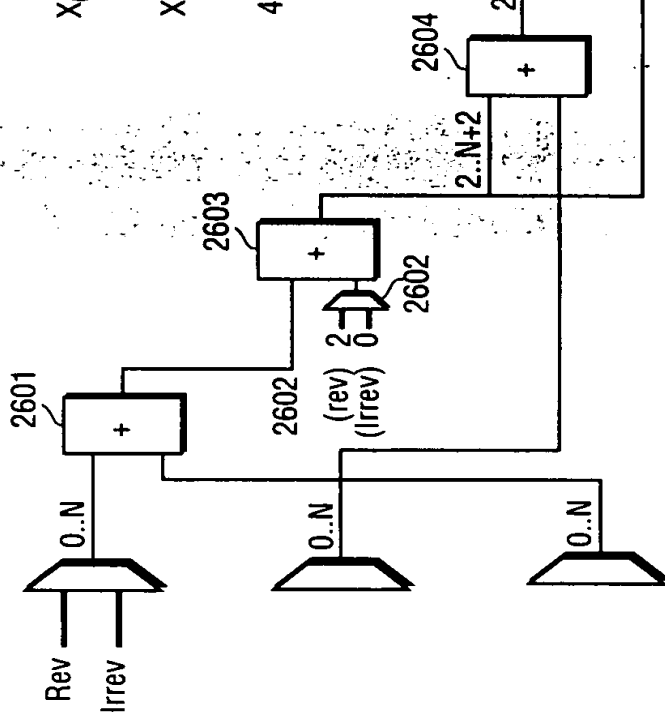
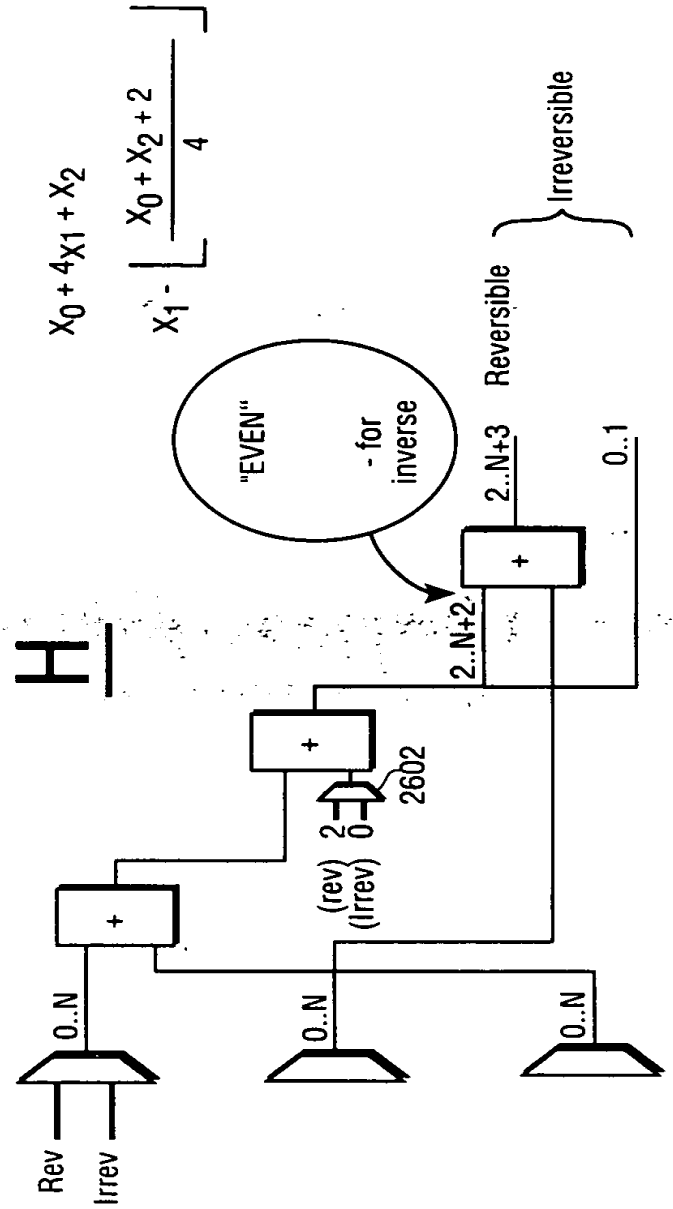
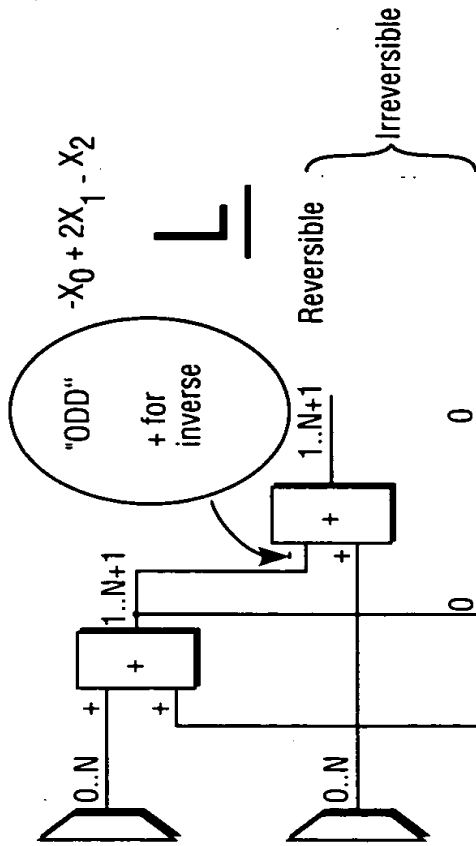


FIG. 26A

FIG. 25B

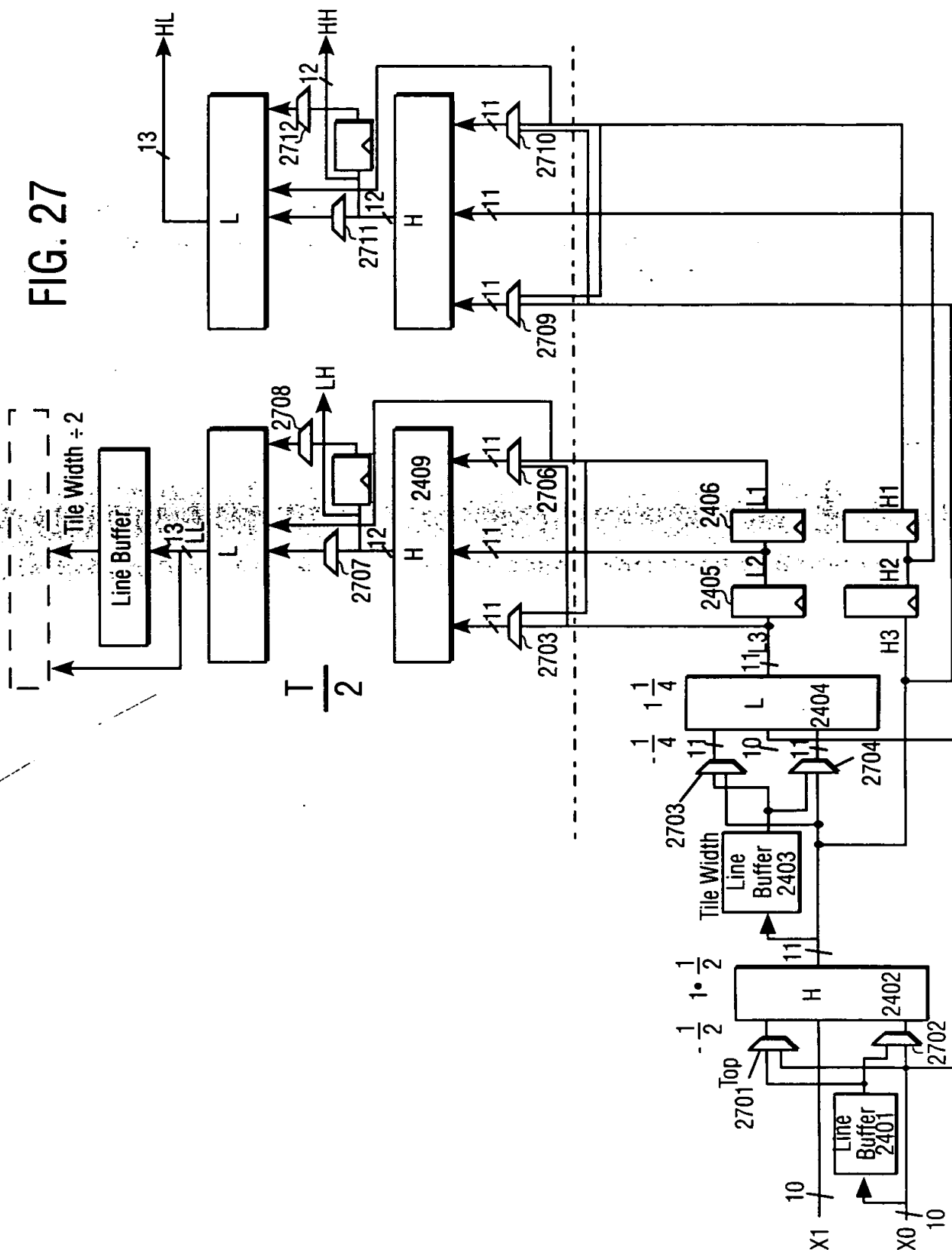


$$X_0 + 4X_1 + X_2$$

$$X_1 - \left[\frac{X_0 + X_2 + 2}{4} \right]$$

FIG. 26B

FIG. 27









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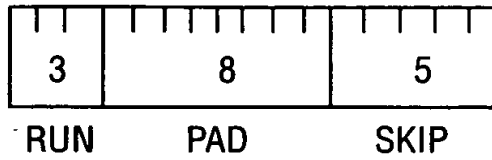


FIG. 30

8x8 region

	A	B	C				
	D	E	F				
	G	H	I				

FIG. 31



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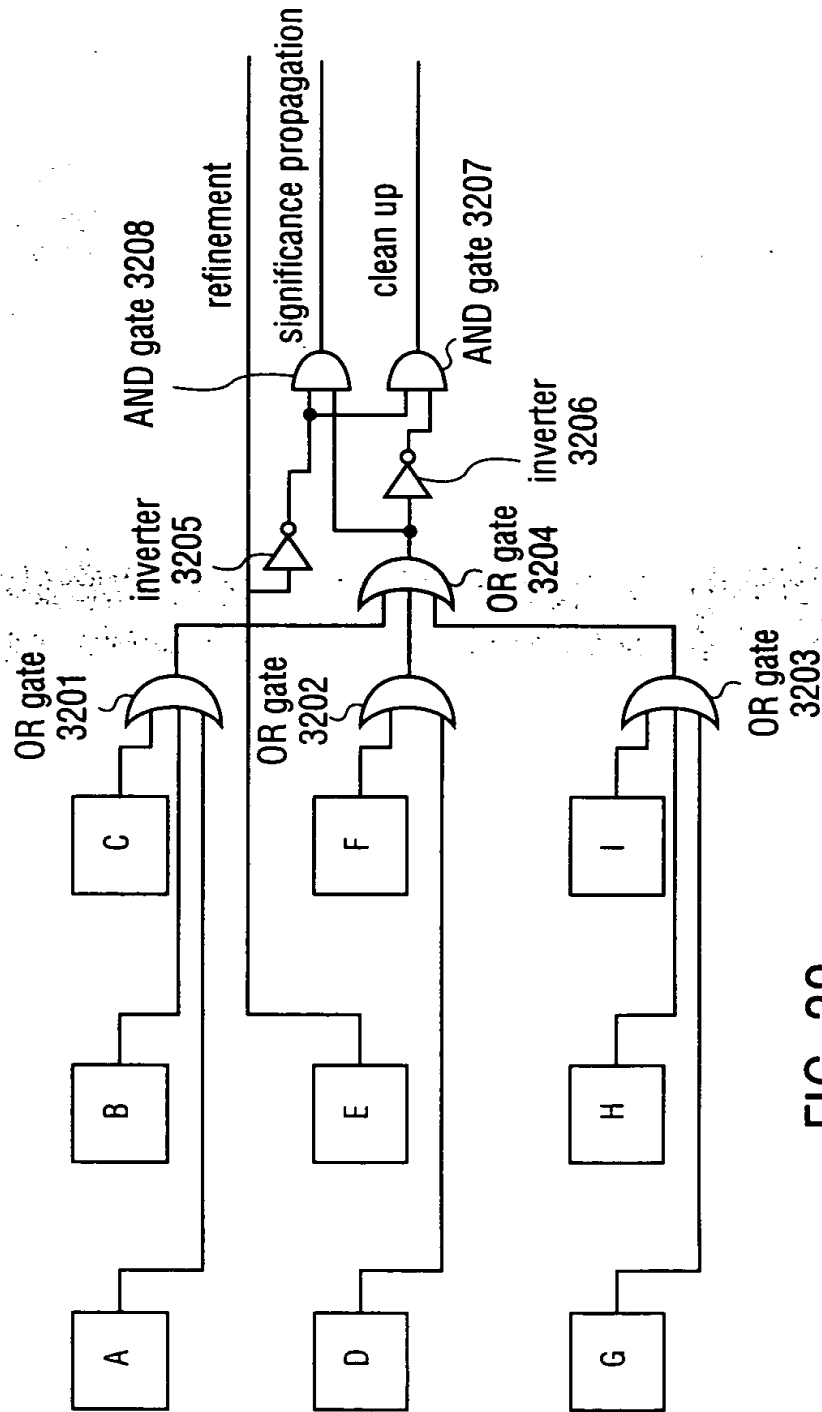


FIG. 32

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